

DEVELOPMENT OF NEW LEAN MANUFACTURING APPROACH THROUGH
PEOPLE DEVELOPMENT AND PROCESS IMPROVEMENT AS A MEDIATOR
IN THE LIBYAN COMPANIES

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I would like to dedicate this work to the soul of my parents Mohammad and Ftaimah, may **ALLAH S.W.T.** bless them and shower them with his mercy and forgiveness. I would like to express my sincere gratitude to my wife Nagwa and my sons Osama, Mohammed, Jihad, Rawad, and my daughter Sajedah. All my brothers and sisters. As well as to all my friends and all my relatives I would like to thank everyone has taught me a word.



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ABSTRACT

Lean manufacturing is one of the approaches widely used by manufacturing companies worldwide to improve business performance. Lean manufacturing could assist organisations to reduce waste, minimize cost, and improve workflow. Unfortunately, very few studies have been found focusing on the Lean Manufacturing implementation in Libya. The main objective of this research was to develop a new Lean Manufacturing (LM) Model towards improving Business Performance (BP) with mediating effect of People Development (PD) and Process Improvement (PI) in Libyan companies. To achieve this aim, the research approach adopted was quantitative method. Survey was used as the research method and data was collected using questionnaire. The respondents involved General Managers, Quality Managers, Operations Managers, Production Managers, and Maintenance Managers. 320 questionnaires were returned yielding 61.5 percent response rate. The findings of the survey were analysed using Statistical Package for Social Science (SPSS) and Partial Least Square (PLS) based Structural Equation Modelling (SEM) software. The hypotheses were tested to establish the relationships between Lean Manufacturing implementation and Business Performance as well as determine the mediating effect of People Development and Process Improvement. The result was that, People Development has a positive relationship between Lean Manufacturing with Business Performance as a mediator, whilst the Process Improvement was non-supportive to the relationship between Lean Manufacturing and Business Performance in the manufacturing companies in Libya. The results of this study can hopefully be useful and act as a guide for the Libyan manufacturing compliance managers and practitioners to improve the Business Performance through LM implementation.

ABSTRAK

Pembuatan ramping adalah salah satu pendekatan yang digunakan secara meluas oleh syarikat pembuatan di seluruh dunia untuk meningkatkan prestasi perniagaan. Pembuatan ramping boleh membantu organisasi mengurangkan pembaziran, meminimumkan kos, dan memperbaiki aliran kerja. Malangnya, tidak banyak kajian yang ditumpukan kepada pelaksanaan Pembuatan ramping di Libya. Objektif utama penyelidikan ini adalah untuk membangunkan Model Pembuatan ramping (LM) yang baru untuk meningkatkan Prestasi Perniagaan (BP) dengan Pembangunan Manusia (PD) sebagai kesan pengantara dan Penambahbaikan Proses (PI) dalam syarikat-syarikat terpilih di Libya. Untuk mencapai matlamat, penyelidikan ini menggunakan pendekatan kaedah kaji selidik. Data telah dikumpul menggunakan soal selidik. Responden adalah terdiri daripada Pengurus Besar, Pengurus Kualiti, Pengurus Operasi, Pengurus Pengeluaran, dan Pengurus Penyelenggaraan. Sebanyak 320 borang soal selidik iaitu 61.5 peratus responden telah diterima dan dianalisis. Dapatan telah dianalisis menggunakan perisian Pemodelan Persamaan Struktur (SEM) yang berasaskan Pakej Statistik untuk SPSS dan Partial Least Square (PLS). Hipotesis telah diuji untuk mewujudkan hubungan antara pelaksanaan lean dalam perusahaan dan Prestasi Perniagaan serta menentukan kesan pengantara Pengembangan Manusia dan Peningkatan Proses. Hasilnya adalah, Pembangunan Manusia mempunyai hubungan positif antara lean dalam perusahaan dengan Prestasi Perniagaan sebagai pengantara, sementara Pembaikan Proses tidak menyokong hubungan antara lean dalam perusahaan dan Prestasi Perniagaan di syarikat-syarikat perkilangan di Libya. Hasil kajian ini sememangnya berguna dan bertindak sebagai panduan bagi pengurusan pematuhan dan pengamal pembuatan Libya untuk meningkatkan prestasi perniagaan melalui pelaksanaan LM.

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LIST OF ABBREVIATIONS

AMOS	-	Analysis of Moment Structures
BP	-	Business performance
BPM	-	Business Process Management
CFA	-	Confirmatory Factor Analysis
CI	-	Continuous Improvement
DMI	-	Design-Manufacturing Integration
FP	-	Financial Performance
GCR	-	Global Competitiveness Report
Genchi Genbutsu	-	Go and See
Heijunka	-	Production Levelling Plan
ISI	-	Information System Infrastructure
IT	-	Information Technology
Jidoka	-	Built in Quality
JIT	-	Just in Time
Kaizen	-	change for better
KMO	-	Kaiser- Meyer-Olkin
KPI	-	Key Performance Indicator
LP	-	Lean Production
LISREL	-	Linear Structural Relations
LM	-	Lean Manufacturing
MP	-	Market Performance
MT	-	Manufacturing Technology
NUMMI	-	New United Motor Manufacturing Inc.
OP	-	Operational Performance
PD	-	people development
PLS	-	Partial Least Square
PI	-	process improvement

PQP	-	Product Quality Performance
ROS	-	Return on Sales
ROI	-	Return on Investment
SEM	-	Structural Equation Modelling
SPSS	-	Statistical Package for Social Science
TPS	-	Toyota Production System
TW	-	Toyota Way
WIP	-	Work In Progress



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